



California Energy Commission

Staff Report Update: *Estimating Burner-tip Prices, Uses, and Potential Issues*

Natural Gas Working Group Stakeholders Meeting
Hearing Room A

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Background: Draft

- Purpose: document a model that estimates gas prices paid by electric generators for use by grid planners and others
- First draft report posted online November 2013
- Explains theory supporting assumed data; methods developed to estimate prices
 - equilibrium modeling of commodity price; conversion of annual to monthly prices; estimation of transportation costs



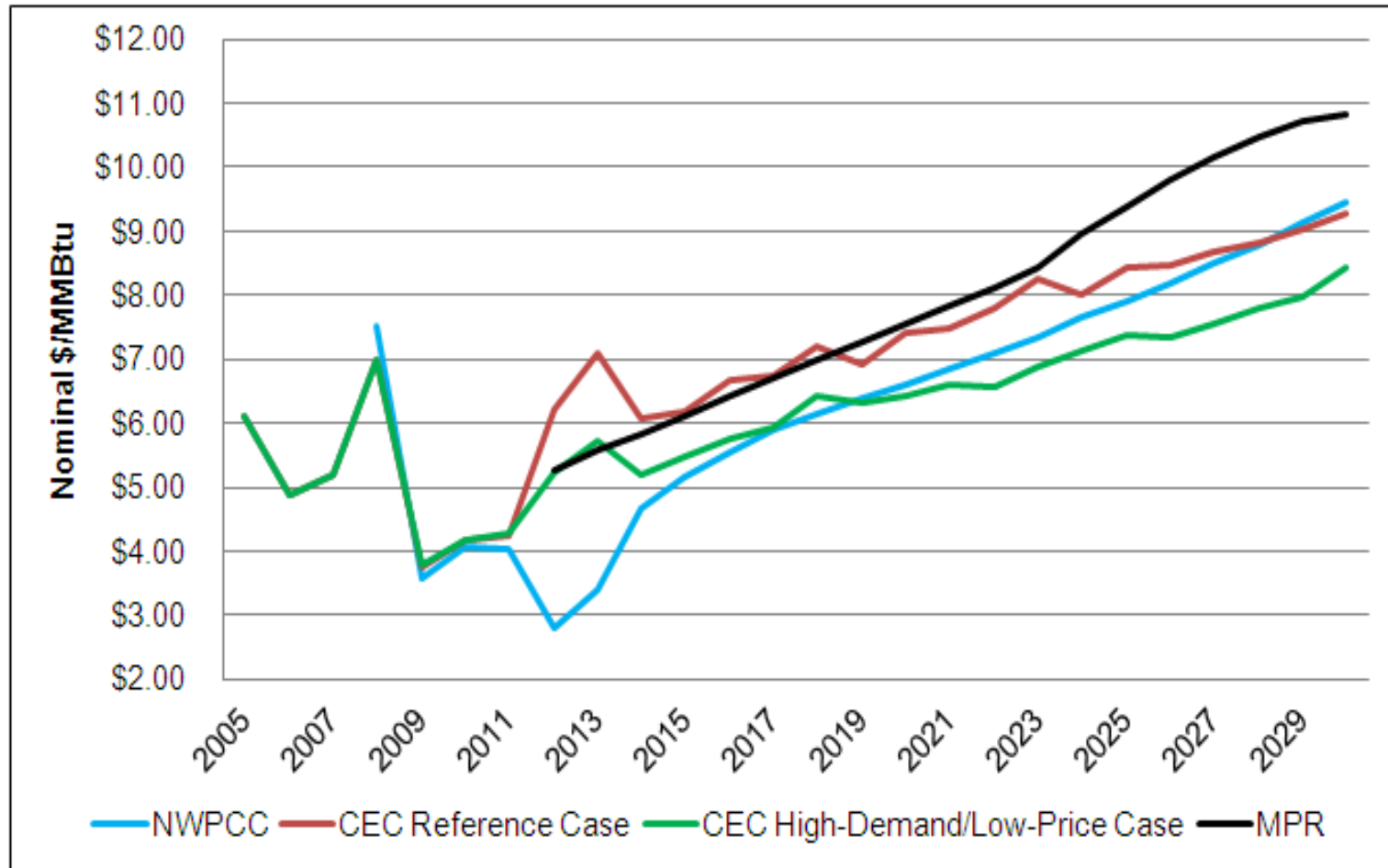
Background: Draft (cont.)

- Compare other methods and estimates:
NWPCC, CPUC, California Gas Report
 - Pipeline transportation: CEC used tariffs; others use financial basis swaps or historical regional price differentials
- Two parties submitted comments



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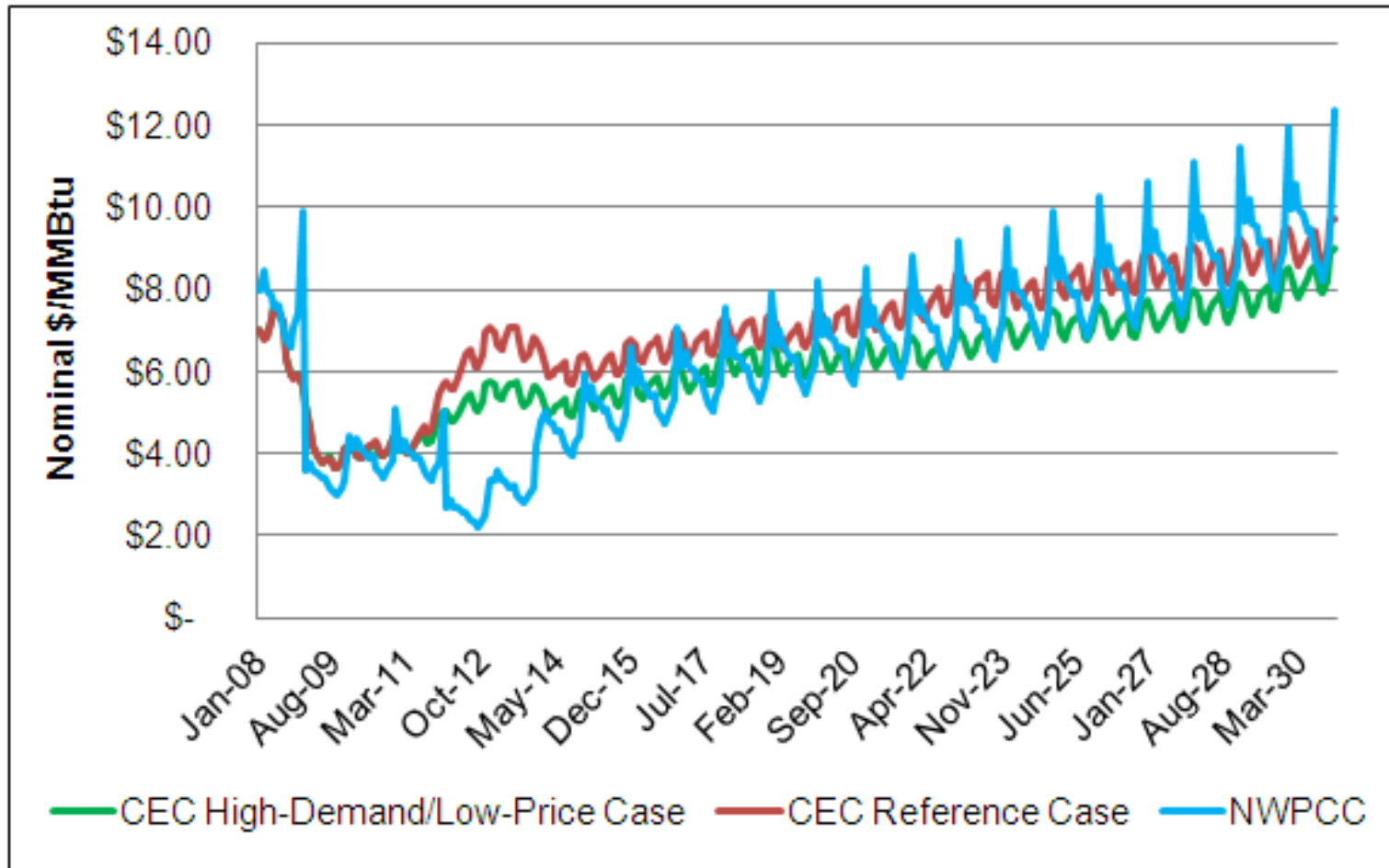
California Annual Prices from NWPCC, CPUC MPR, and Energy Commission: Growth Rates Almost Equal





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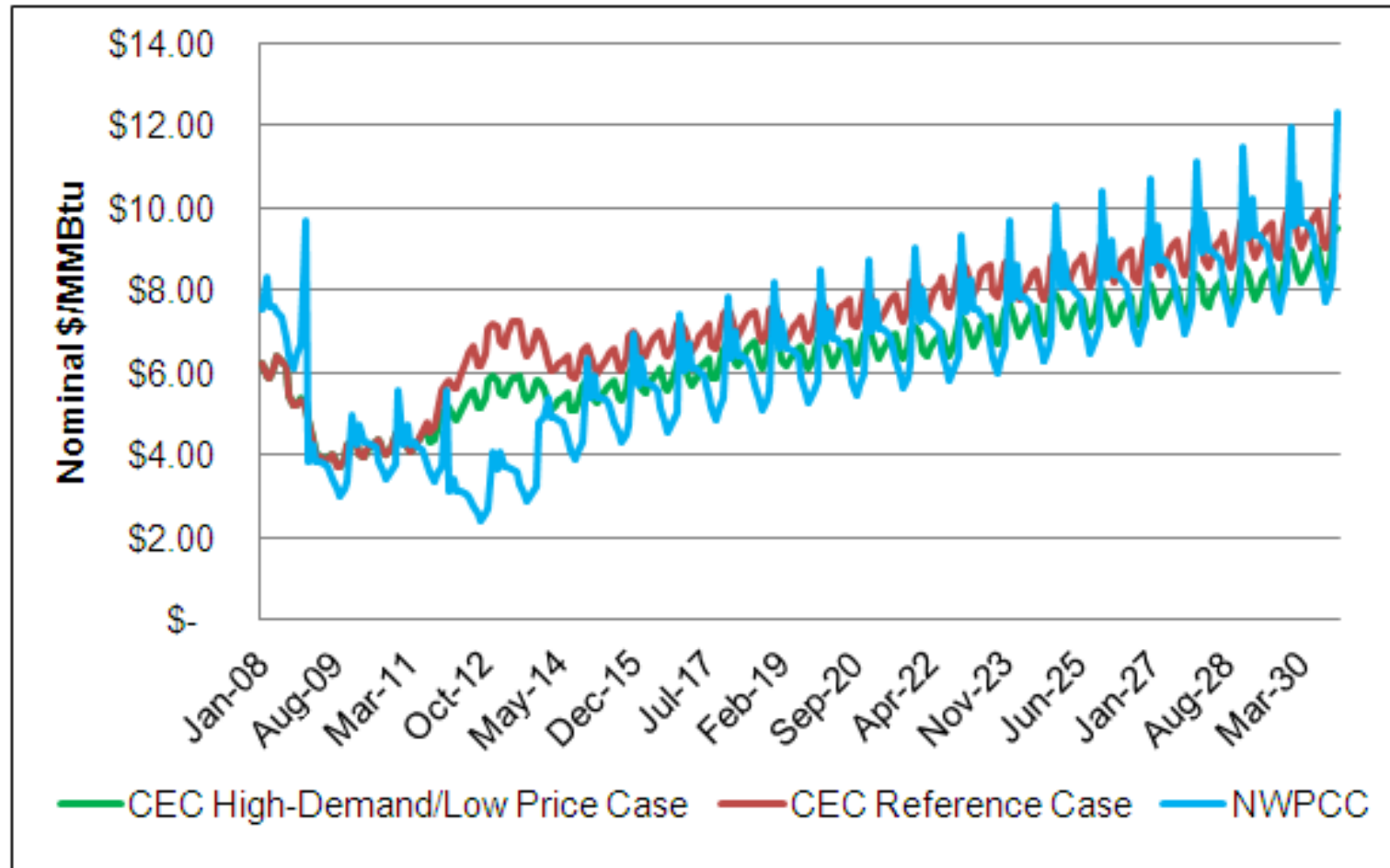
Northern California Monthly Prices: NWPCC Estimates Have Greater Volatility





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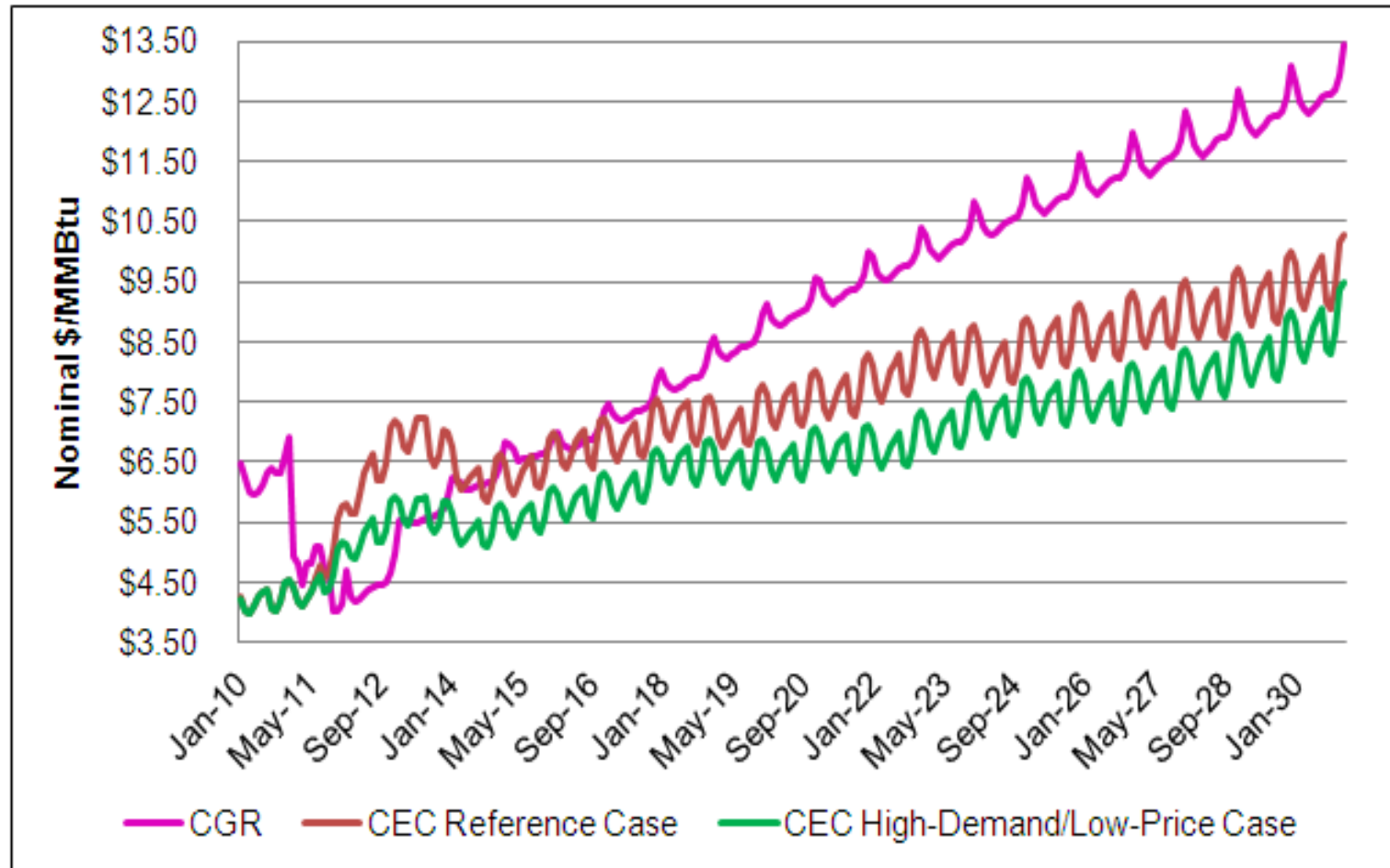
Southern California Monthly Prices: NWPCC Estimates Have Greater Volatility





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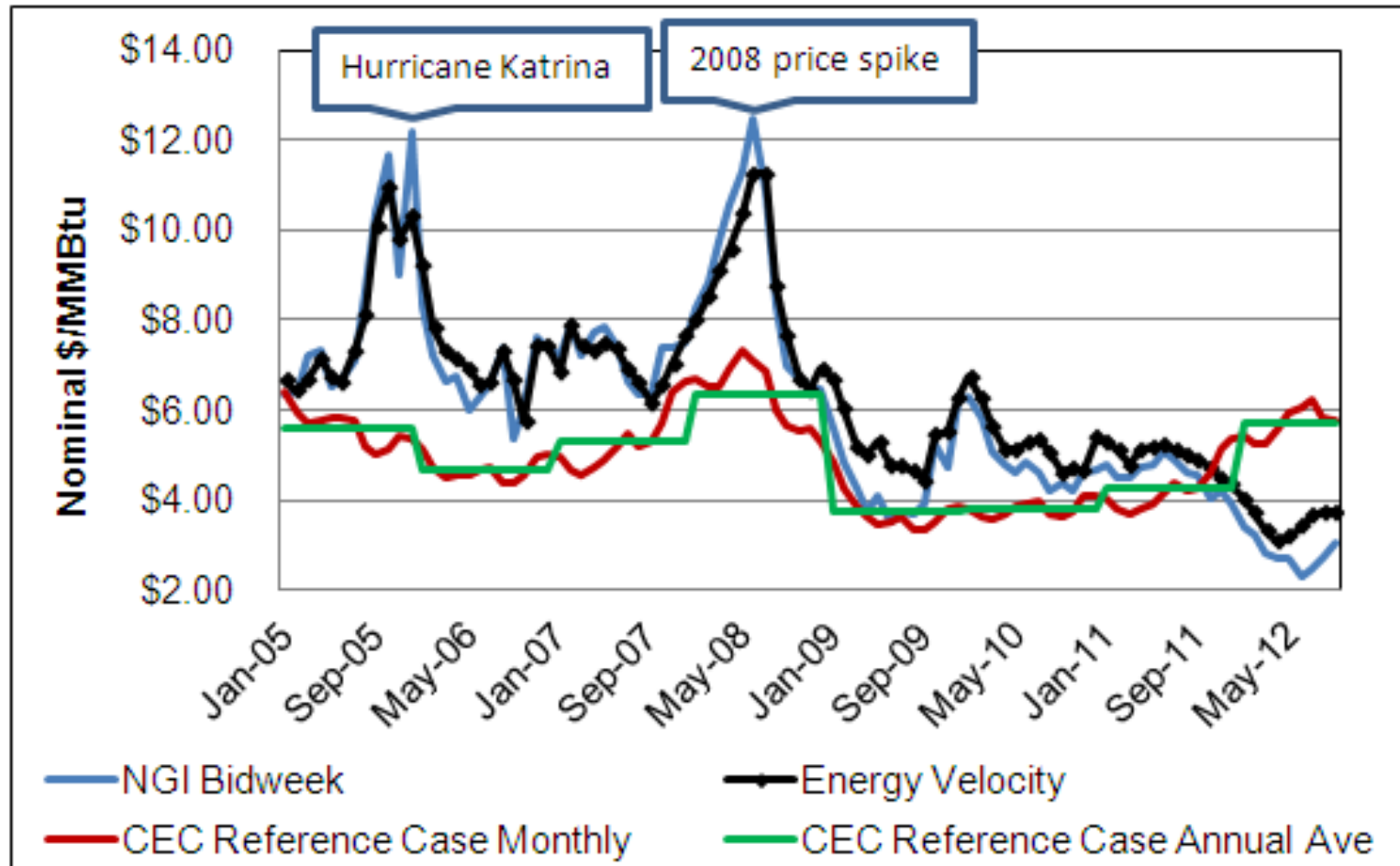
2012 California Gas Report and Energy Commission Growth Rates in SoCalGas Prices Differ





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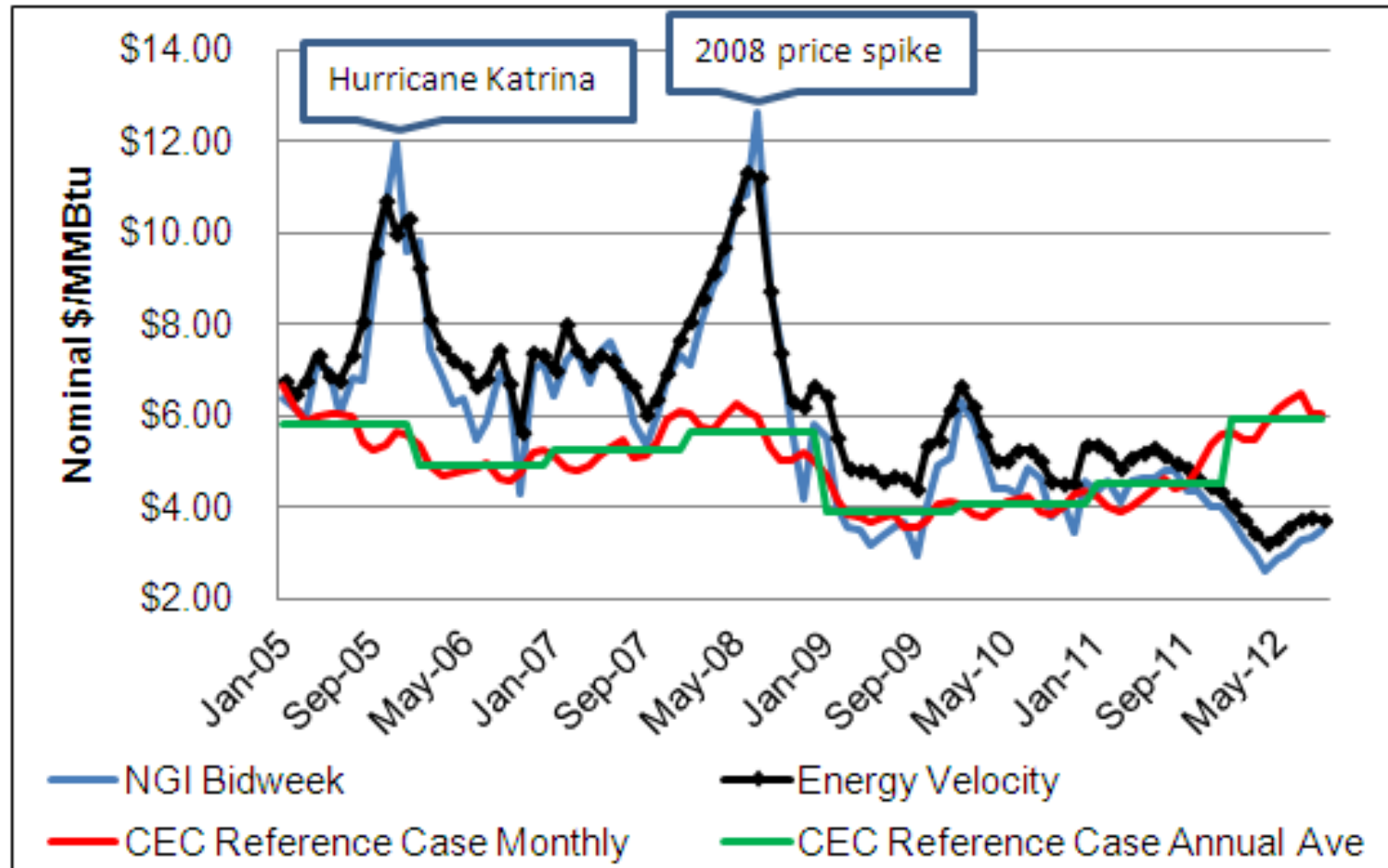
PG&E Citygate Prices: CEC Backcast Tracks Energy Velocity and NGI Bidweek Fairly Well





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SoCal Southern Border Prices: CEC Backcast Tracks Energy Velocity and NGI Bidweek Fairly Well





Revised Report and Method

- Final draft in development; publication by summer 2014
- WECC/TEPPC collaborated with staff to develop alternatives to the Henry Hub seasonal factors
 - Seasonal factors convert annual gas price to monthly price
 - Current factors: ratio of monthly to annual 2000-2012 average Henry Hub price
 - Seven price hubs across the U.S. West recommended to replace Henry Hub
 - Staff determined statistical differences between Henry Hub and proposed hubs



Revised Report and Method (cont.)

- Statistical tests: Mann-Whitney U, Kolmogorov-Smirnov, F-Tests
- Results: No difference between WECC/TEPPC seasonal factors and Henry Hub seasonal factors
- Continue to use Henry Hub factors
- Appendix will report on WECC/TEPPC alternative and statistical tests
- Firm rate pipeline transportation method to be replaced by simulation of rates electric generators pay



Revised Report and Method (cont.)

- Operators charge full tariff rates for capacity on fully-subscribed pipelines
- Operators offer discounts for capacity on under-subscribed pipelines
- Staff developing method to simulate this in model based on capacity release information on pipeline BBS websites
- Result: Better estimates of burner-tip prices



Questions and Comments